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CLINICAL APPROACHES TO THE DIAGNOSIS AND TREATMENT OF ACUTE PANCREATITIS UNDER CONDITIONS OF FULL-SCALE WAR IN UKRAINE

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Introduction. Acute pancreatitis under conditions of full-scale war in Ukraine can have serious consequences for the health of patients. Today, the incidence of acute pancreatitis is up to 10% of patients with urgent abdominal pathology, of which 15–20% suffer from destructive pancreatitis. The issue of clinical approaches to diagnosis and the choice of treatment management of acute pancreatitis under conditions of full-scale war in Ukraine remains relevant.

The purpose of the work – to determine the features of clinical approaches to diagnosis and the choice of treatment management of acute pancreatitis under conditions of full-scale war in Ukraine.

Materials and methods. During 2 years of full-scale war in Ukraine, 207 patients were treated. Peculiarities of clinical approaches to diagnosis and choice of treatment management for acute pancreatitis under conditions of full-scale war in Ukraine were studied.

Conclusions. A low level of psycho-emotional and physical well-being, resistance to stress, anxiety, asthenia, and a state of neurotic depression have been established in patients suffering from acute pancreatitis under conditions of full-scale war in Ukraine. Acute pancreatitis has important pathogenetic differences and typical complications that determine diagnostic and treatment management, which include methods of intensive conservative therapy and surgical interventions. Diagnostic and treatment management for this disease should be standardized depending on the terms, severity of the disease, taking into account the psycho-emotional state of the patients.

Key words: diagnosis, treatment management, acute pancreatitis, full-scale war in Ukraine.

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КЛІНІЧНІ ПІДХОДИ ДО ДІАГНОСТИКИ ТА ЛІКУВАННЯ ГОСТРОГО ПАНКРЕАТИТУ В УМОВАХ ПОВНОМАСШТАБНОЇ ВІЙНИ В УКРАЇНІ

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Гострий панкреатит має серйозні наслідки для здоров'я пацієнтів. Метою роботи було визначення клінічних підходів до діагностики та вибору лікувальної тактики у разі гострого панкреатиту. За 2 роки повномасштабної війни в Україні проліковано 207 хворих. Досліджено клінічні підходи до діагностики та вибору лікувальної тактики у разі гострого панкреатиту в умовах повномасштабної війни в Україні. У хворих з гострим панкреатитом в умовах повномасштабної війни в Україні встановлено низький рівень психоемоційного благополуччя, опірності до стресу. Гострий панкреатит у воєнний час має важливі патогенетичні відмінності і характерні ускладнення. Діагностична та лікувальна тактика при цьому захворюванні має бути стандартизована залежно від термінів, тяжкості захворювання з урахуванням психоемоційного стану хворих.

Ключові слова: діагностика, лікувальна тактика, гострий панкреатит, повномасштабна війна в Україні.

Introduction. Acute pancreatitis (AP) is a pathological condition of the pancreas, which is characterized by severe inflammation of this organ and can have serious consequences for the health of patients [2]. Under today's conditions of full-scale Russian war in Ukraine, the incidence of AP is up to 10% of patients with urgent abdominal pathology, of which 15–20% suffer from destructive pancreatitis [1].

Among surgical diseases of the abdominal cavity, acute pancreatitis is the most complex, hard-to-predict, life-threatening and high-cost pathology [8]. Diagnosis and treatment of AP remains actual now [11].

The problem of AP is also important in emergency abdominal surgery under conditions of full-scale war [9].

Clinicians observe the change in the clinical features of the disease course during wartime [12]. In most cases the diagnosis of AP is based on the presence of severe girdle pain, signs of systemic inflammatory response syndrome, activity of serum amylase, lipase, data of ultrasonography, computer tomography, and magnetic resonance imaging [2; 12].

The most common causes of acute pancreatitis were migration of gallstones through the biliary tract and alcohol abuse [2; 8]. The course of AP is accompanied by gastric portal dysfunction, splenic and portal vein thrombosis [8]. Dyspeptic disorders with nausea and repeated vomiting remain distinct clinical symptoms of AP [12]. Determination of local complications of the disease in the form of peripancreatic fluid accumulations, necrosis of the large intestine, signs of peritonitis, arrosive hemorrhage is one of the features of AP course at the current stage [2].

The concept "acute pancreatitis", the terms "mild acute pancreatitis", "severe acute pancreatitis", "acute parapancreatic fluid accumulation", "false cyst of the pancreas", "pancreatic necrosis" with a distinction of its three degrees and clearly defined characteristics of local and systemic complications of the disease using the criteria for assessing the severity of AP course of mild, moderately severe and severe in clinical practice has not gained wide, clear usage [2; 5; 8].

The period of war is a chronic and acute stress, which negatively affects people's health and can confirm neurogenic, psychogenic theories of the occurrence of somatic diseases, in particular, acute pancreatitis [3; 4]. The modern Russian-Ukrainian war creates new realities and various factors affecting the organism. As a result of the influence of agents of military and industrial origin on the body, the organs of the digestive tract are also damaged [7]. In many cases AP course is accompanied by the development of psycho-emotional disorders such as depression and anxiety [9]. Assessment of the psychosomatic state of patients with AP is an urgent problem of our time and becomes one of the key aspects of complex treatment and rehabilitation of patients, since the mental state can significantly affect the results of treatment and quality of life [10].

The consequences of the negative impact of military actions on the population of Ukraine are obvious: people's sleep, perception of information and memory impaired. Some people have increased blood pressure and headaches. Some experience dyspeptic disorders as a result of change in diet [10]. Due to high stress, constant shelling, explosions, lack of adequate sleep, a high-calorie diet rich in carbohydrates and fats, excessive consumption of alcohol and cigarettes, various metabolic disorders develop, which are triggers for the development of acute pancreatitis [6; 7; 9]. Acute pancreatitis requires complex treatment and careful assessment of risk of complications. Surgical approaches and results of treatment of AP today cannot meet the demands of health care [5].

Thus, the issue of clinical approaches to diagnosis and the choice of treatment management for acute pancreatitis under conditions of full-scale war in Ukraine remains actual.

The purpose of the study – to determine the features of clinical approaches to diagnosis and the choice of treatment management for acute pancreatitis under conditions of full-scale war in Ukraine.

Materials and methods. 207 patients were treated for acute pancreatitis in the surgical departments of the Odesa Regional Clinical Hospital during 2 years of full-scale war in Ukraine.

The diagnosis of AP was established following clinical examination, laboratory data, and results of complex instrumental research: ultrasound, CT, MRI.

Psychological questionnaires were used to determine the characteristics of the patient's psychosomatic state. To assess the well-being, activity and mood, the WAM (well-being, activity, mood) methodology was used [7]. A clinical questionnaire developed by K.K. Yakhin and D.M. Mendelevich in 1978 was used to identify and assess signs of neurotic conditions, such as anxiety, asthenia, neurotic depression (ND), hysterical response type (HRT), obsessive-phobic (OPh) and autonomic disorders (AD) [9]. To determine the degree of resistance to stress, the method developed by Holmes and Rage was used [10]. The APACHE II index was calculated for patients. The level of cortisol, a stress hormone, was studied.

We follow active-expectant management of AP. Under conditions of negative psycho-emotional influence today, treatment algorithm was as follows: 1) In the course of AP as moderately severe and severe AP, treatment is carried out in the intensive care unit. 2) Adequate infusion therapy – 40–60 ml/kg/day. 3) Epidural anesthesia and nasoenteral probe with nutritional support. 4) Intestinal stimulation. 5) Correction of disorders of central hemodynamics and microcirculation, antisecretory therapy. 6) Intra- and extracorporeal detoxification. 7) Antibiotic prophylaxis and treatment of purulent complications. 8) Hepatoprotective therapy. 9) Cerebroprotection. 10) Suppression of the release of inflammatory mediators, immunocorrection, antioxidant therapy. 11) Use of anti-enzymatic drugs. 12) Puncture minimally invasive interventions under ultrasound control, including draining, video laparoscopic sanitation. 13) The traditional operation involved laparotomy, lumbotomy or their combination, removal of sequestrations with further staged lavage if necessary.

The research was carried out in accordance with the principles of the Helsinki Declaration. The study protocol was approved by the Local Ethics Committee (No. 3 dated 12.04.2023). Patients' informed consent was obtained for the study.

Statistical processing of the results was performed using the program "STATISTICA 10" EnterprisePorttable (2011, ENG) with determination of the average value (M), average error (m). The reliability of the obtained results was determined using the Student's test at $p<0.05$ and less.

Research results and their discussion. Assessment of the psycho-emotional state of patients with HP using the WAM method, which is presented in Table 1, did not reveal a significant difference by gender ($p>0.05$).

Table 1

Average indicators according to the WAM method in female and male patients (points, M±m), n=207

Indicator	Female patients (n=131)	Male patients (n=76)
Well-being	25.12±1.39	28.18±1.82
Activity	39.21±1.27	37.04±1.19
Mood	31.41±1.38	35.11±1.66

Note: $p>0.05$ between groups

The "well-being" scale showed values in patients of both groups within a low level – 25.12–28.18 points. The "activity" and "mood" scales indicated an average level and ranged from 31.41 to 39.21 points.

The psychosomatic condition of persons with AP is presented in Table 2.

Table 2

Results of assessment of maladaptive states (points, M±m), n=207

Indicator	Female patients (n=131))	Male patients (n=76)
Anxiety	-1.45±0.43	-1.29±0.45
Asthenia	-1.64±0.36	-1.47±0.56
Neurotic depression (ND)	-1.31±0.51	0.23±0.21*
HRT	0.34±0.12	1.01±0.43
OPh	1.03±0.43	1.16±0.33
AD	0.78±0.13	0.45±0.42

Note: p<0.05 between groups.

Such maladaptive states as anxiety and asthenia regardless of gender (p>0.05) correspond to the level of the disease state. Patients experienced increased levels of fatigue, weakness, loss of energy, feeling of fear, nervousness, and anxious thoughts.

The condition of neurotic depression was typical for women, while among men this indicator corresponded to the norm (p<0.05).

Therefore, under conditions of the war, female patients with AP are more prone to low mood, loss of interest in various aspects of life and other depressive symptoms.

The scales of ND, HRT, OPh and AD showed that in patients of both groups they corresponded to the norm, but did not reach the level of excellent health. Values on the scales of ND, HRT were slightly lower, and signs of AD were higher in female patients compared to male patients (p>0.05).

In patients with AP, which developed during the wartime period, a low level of stress resistance was determined, with no significant difference between gender of the examinees (average score in women – 315.34±2.5, in men – 302.8±2.5), (p>0.05).

The levels of cortisol (stress hormone) were (294.8±14.7) nmol/l and (289.3±14.5) nmol/l, respectively, with normal values of (73.8–291) nmol/l. This indicates increased sensitivity to stress and the need for additional support in such patients, as low stress resistance affects the course of AP.

As a result of the research, it was established that 25 (12.1%) patients were hospitalized within the first 24 hours from the onset of the disease, 133 (64.3%) – from 24 to 72 hours, and 49 (23.7%) patients – after 72 hours.

An increased body mass index of 25.0 kg/m^2 and more was diagnosed in 18 (8.7%) cases.

The cause of AP in patients was alcohol abuse and nutritional disorders in 115 (55.6%) cases, biliary pancreatitis was diagnosed in 62 (30.0%) cases, AP against the background of psychological trauma developed in 30 (14.5%) patients.

There were 76 (36.7%) male patients, 131 (63.3%) female patients aged 25 to 77 years.

The features of pancreatic damage, depending on the etiology, under conditions of martial law against the background of psycho-emotional disorders include:

– damage to the head and body of the pancreas with primary spread of the process to the right parts of the retroperitoneal space takes place with AP of biliary genesis in 85%, subtotal or total damage occurs in 15%;

– in the case of AP of alcoholic and alimentary origin, the body and tail of the gland are affected in 70% with the spread of the process to the left parts of the retroperitoneal space, and in 30% – subtotal or total damage;

– moderately severe pancreatitis is accompanied by reactive pleurisy in 56%, severe – in 92% of cases.

When the tail and body are affected, a left-sided hydrothorax is more common, and a right-sided hydrothorax of the body and head.

There is a direct correlation between the initial severity of the patient's condition and the extent of pancreatic damage.

Active expectant management allows for step-by-step surgical interventions.

The omental sac and abdominal cavity were drained with necrosequestrectomy through laparotomy approach in 22 patients, in 12 – during lumbotomy.

The structure and nature of AP complications is presented in Table 3.

Table 3

The structure and nature of complications in patients with AP

Complications of pancreatic necrosis	Number of patients (n=207)	
	Abs.	%
Enzyme-toxic shock	123	59.4
Fermentative ascites – peritonitis	186	89.9
Signs of pancreatic necrosis	54	26.1
Swelling of parapancreatic tissue and retroperitoneal tissue with the formation of an inflammatory infiltrate	94	45.4
Fluid accumulation in the omental sac	99	47.8
Fluid accumulation in the abdominal cavity	128	61.8
Phlegmon of the retroperitoneal space	78	37.7
Biliary hypertension	80	38.6
Fibrinous-purulent peritonitis	16	7.7
Arrosive hemorrhage	23	11.1
Intestinal fistula	7	3.4

Enzymatic-toxic shock appeared in 123 (59.4%), enzymatic ascites – peritonitis – in 186 (89.9%) patients with AP. Signs of pancreatic necrosis were diagnosed in 54 (26.1%) cases, swelling of the parapancreatic tissue and retroperitoneal tissue with the formation of an inflammatory infiltrate in the abdominal cavity was detected in 94 (45.4%) patients, accumulation of fluid in the omental sac – in 99 (47.8%), in the abdominal cavity – in 128 (61.8%) cases.

Phlegmon of the retroperitoneal space was found in 78 (37.7%), biliary hypertension – in 80 (38.6%), fibrin-

ous-purulent peritonitis – in 16 (7.7%), arrosive hemorrhage – in 23 (11.1%), intestinal fistula – in 7 (3.4%) cases.

In the phase of enzymatic-toxic shock, 15 (12.2%) patients died from multiple organ failure.

Of 192 patients who developed septic and other complications of AP, 64 (33.3%) patients died. The cause of death was severe combined purulent complications with the development of sepsis, multiple organ failure, repeated arrosive hemorrhages, and the formation of intestinal fistulas.

Conclusions. In patients suffering from acute pancreatitis under conditions of full-scale war in Ukraine, a low level of psycho-emotional and physical well-being, resistance to stress, anxiety, asthenia, and a state of neurotic depression have been established.

Acute pancreatitis under conditions of full-scale war in Ukraine has important pathogenetic differences and typical complications that determine diagnostic and treatment management, which include methods of intensive conservative therapy and surgical interventions.

Diagnostic and treatment management for this disease should be standardized depending on the terms, severity of the disease, taking into account the psycho-emotional state of the patients.

Prospects for further development are devoted to determining the features of clinical approaches to diagnosis and the choice of treatment management for acute calculous cholecystitis under conditions of full-scale war in Ukraine.

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